



Phase I Environmental Site Assessment,  
Soil Gas Survey, and Limited Asbestos-  
Containing Material Survey  
General Dynamics  
77 A Street, 189 B Street, 156 B Street  
Needham, Massachusetts

Prepared for:  
**Normandy Real Estate Partners**  
c/o Post & Shell, P.C.  
Philadelphia, Pennsylvania

Prepared by:  
**ENVIRON International Corporation**  
Boston, Massachusetts

Date:  
**October 2014**

Project Number:  
**33-35500A**

## Signature and Environmental Professional Statement

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



---

Peter J. Galoski - Principal Consultant

# Contents

	<b>Page</b>
<b>1 Summary of Conclusions</b>	<b>1</b>
1.1 Site Summary	1
1.2 Recognized Environmental Conditions	1
1.3 Controlled RECs	1
1.4 Historical REC	2
1.5 Other Findings	2
1.6 Non-scope Considerations	2
<b>2 Introduction</b>	<b>4</b>
2.1 Purpose	4
2.2 Scope of the Assessment	4
2.3 Reliance and General Limitations	5
<b>3 Site Description</b>	<b>7</b>
3.1 Site Setting	7
3.2 Current Use of Property	9
3.3 Current Uses of Adjoining Properties	10
<b>4 Review of Public Records and Other Information Sources</b>	<b>11</b>
4.1 Environmental Regulatory Database Review	11
4.2 Historical Uses of the Site and Adjacent Sites	13
4.3 Review of Local and State Agency Information	15
4.4 Previous Environmental Assessments and Activities	16
4.5 User-Provided Information	19
<b>5 Site Reconnaissance</b>	<b>20</b>
5.1 Methodology and Limiting Conditions	20
5.2 General Site Setting and Observations	20
<b>6 Soil Gas Survey</b>	<b>28</b>
6.1 Sample Collection and Analysis	28
6.2 Analysis Results	28
<b>7 Findings, Opinion, and Conclusions</b>	<b>30</b>
7.1 Findings and Opinion	30
7.2 Conclusions	32
7.3 Analysis of Data Gaps	32
<b>8 References</b>	<b>33</b>
8.1 Documents	33
8.2 Interviews	33
<b>9 ASTM Definitions</b>	<b>34</b>

## Contents

### List of Figures

Figure 1: Site Location Map

Figure 2: Site Layout

### List of Appendices

Appendix A: Site Photographs

Appendix B: Environmental Database Report

Appendix C: Historical Research Documentation

C.1: Topographic Maps

C.2: Aerial Photographs

C.3: Abstract of City Directories

C.4: Historical Fire Insurance Maps

C.5: Property Tax Maps

Appendix D: Key Environmental Documents

# 1 Summary of Conclusions

ENVIRON International Corporation (ENVIRON) was retained by Normandy Real Estate Partners c/o Post & Shell, P.C. to perform a Phase I Environmental Site Assessment (ESA), a soil gas survey, and a limited survey of asbestos-containing materials (ACMs) of the General Dynamics property located at 77 A Street, 189 B Street, and 156 B Street in Needham, Massachusetts (herein referred to as the “facility,” “property,” or the “site”). The objective of the Phase I ESA, which was conducted in conformance with the scope and limitations of ASTM International’s *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* E1527-13 (the “ASTM Standard”), was to identify Recognized Environmental Conditions (RECs), as defined in the ASTM Standard (see Section 2.1).

## 1.1 Site Summary

General Dynamics C4 Systems, Inc. owns and operates a software research and development facility in Needham, Massachusetts. The approximately 27.32-acre site is improved with three buildings. Building 5 (77 A Street) is 257,953-square feet, Building 3 (189 B Street) is 170,000-square-feet, and Building 8 (156 B Street) is 80,640-sqaure-feet. The site was first developed prior to the 1950s and has been owned and operated by General Dynamics since that time. Prior to development, the property appears to have been part of a sand and gravel pit.

## 1.2 Recognized Environmental Conditions

ENVIRON performed a Phase I ESA of the site at 77 A Street, 189 B Street, and 156 B Street in Needham, Massachusetts in conformance with the scope and limitations of the ASTM Standard. Any exceptions to, or deletions from, this practice are described in Section 6.3 of this report. This assessment has revealed two Controlled RECs and one Historic REC in connection with the site.

## 1.3 Controlled RECs

ENVIRON identified the following controlled RECs (CRECs), as defined by the ASTM Standard:

- **Downgradient Property Status (DPS) RTN 3-18118.** This Release Tracking Number (RTN) is associated with a release of chlorinated volatile organic compounds (VOCs) in groundwater was attributed to the upgradient Coca Cola property located at 98 B Street. Response actions relative to the groundwater contamination have been conducted by Coca Cola since 1999 as the responsible party for the release. The response actions have included the sampling and analysis of groundwater from wells located near Building 3 and the evaluation of indoor air quality at Building 3. Based on recent groundwater data provided to ENVIRON, elevated concentrations of chlorinated VOCs currently remain in groundwater at the subject property. An indoor air quality evaluation was performed at Building 3 in August 2014 and did not identify the presence of chlorinated VOCs in indoor air.
- **Former Active Underground Storage Tanks.** Available records indicate that eleven USTs have been historically located at the site. Nine of the USTs have been removed and one tank was abandoned in place under Building 5. Releases were reported under the Massachusetts Contingency Plan (MCP). Regulatory closure has been documented for

each RTN associated with former USTs as discussed below, although residual petroleum impacts remain in place in connection with RTN 3-10831 and RTN 3-30892. The residual petroleum contamination from the closed releases is expected to be at levels which pose no significant risk to human health, public welfare, and the environment.

#### 1.4 Historical REC

ENVIRON identified the following historical REC (HREC), as defined by the ASTM Standard:

- **Closed Releases.** As discussed above in connection with former USTs, several petroleum releases have been documented at the site and were reported to the Massachusetts Department of Environmental Protection (MassDEP). Each of the releases occurred in connection with former USTs at Buildings 3 and 5 and achieved closure under the MCP with the submittal of Response Action Outcome Statements, with the exception of Release Tracking Number (RTN) 3-18118 associated with the DPS as summarized above.

#### 1.5 Other Findings

Although not a considered a REC based on currently available information, ENVIRON identified the following “Other Finding”. The term “other finding” is not defined by ASTM; rather, ENVIRON uses the term to connote areas of contingent risk that are not clearly defined by the ASTM Standard.

- **Soil Gas Survey.** ENVIRON completed a soil gas survey at the site which included the collection of samples from eight shallow soil gas collection points. Laboratory analysis of the samples detected concentrations of VOCs above the Residential Sub-Slab Soil Gas Screening Values in all locations. VOCs were above the Commercial Sub-Slab Soil Gas Screening Values in 5 of the 8 locations tested. All soil gas samples were collected on the exterior of the buildings and do not represent actual concentrations in indoor air. As noted above, an indoor air evaluation was conducted by others in Building 3 and did not detect the presence of contaminants in indoor air. Since Building 3 is directly downgradient of the Coca Cola release area, indoor air impacts at Buildings 5 and 8 are unlikely.

*De minimis* conditions, as defined in Chapter 2.0, along with other site conditions observed during the site visit, are discussed within relevant sections of this report and are summarized in Chapter 6.0.

#### 1.6 Non-scope Considerations

ENVIRON identified the following finding that relates to non-scope considerations (as discussed in Section 2.2), as detailed below:

- **Asbestos-Containing Materials (ACMs).** ENVIRON retained Axiom Partners to conduct a limited survey of ACMs at the three site buildings. A total of 63 bulk samples of suspect ACMs were collected and analyzed for asbestos content using polarized light microscopy (PLM). Of the 63 samples collected, 7 samples contained greater than one-percent asbestos content by visual estimations. Materials containing greater than one percent asbestos are considered “asbestos-containing” under both federal and state regulations. Materials identified as asbestos-containing were remnant black tile mastic, gray 9 inch by 9 inch floor tile and mastic, and gray window caulking in Building 5, and window glazing, pipe

fitting insulation, and remnant carpet/tile mastic in Building 3. No ACM was found in samples collected from Building 8.

## 2 Introduction

### 2.1 Purpose

ENVIRON was retained by Normandy Real Estate Partners c/o Post & Schell, P.C. to conduct a Phase I ESA, a soil gas survey, and limited ACM survey of the General Dynamics property located in Needham, Massachusetts. ENVIRON's assessment was conducted in connection with a potential financial transaction. The purpose of the Phase I ESA was to identify RECs, which are defined in the ASTM Standard as:

"The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions."

### 2.2 Scope of the Assessment

ENVIRON completed the following tasks, consistent with the ASTM Standard, during its Phase I ESA of the property:

- A visit to the site by Alec Toutant of ENVIRON on September 9 to observe the exterior and interior features of the site and to identify the uses and conditions specified in the ASTM Standard. In addition, ENVIRON observed the adjoining properties from the site or adjacent public thoroughfares. Photographs taken during the site visit are presented in Appendix A.
- An interview during the site visit with the following individuals (year of initial hire at the site indicated in parentheses): Eric Cardinal, Environmental Manager (2008). The aforementioned individuals are referred to herein as "facility personnel". The facility personnel interviewed by ENVIRON were identified by the Company as having good knowledge of the uses and physical characteristics of the site.
- A review of information contained in federal and state environmental databases, as obtained from the sources noted below:
  - A radius report prepared by Environmental Data Resources, Inc. (EDR, see Appendix B), which presents the results of searches of federal and state databases for the subject site, as well as properties near the subject site. The radius searched for each database, as well as the databases themselves, was selected in accordance with the ASTM Standard.
  - The United States Environmental Protection Agency's (USEPA's) Envirofacts database, which provides site information contained in multiple USEPA regulatory databases.
  - The Massachusetts Department of Environmental Protection (MassDEP) online database, which provides regulatory documentation for reportable release sites.
- A review of standard historical sources (included as Appendix C) and local agency inquiries, as defined in the ASTM Standard. The following resources were reviewed:
  - Readily available historical sources, including (where available) historical topographic maps and aerial photographs, city directories, and Sanborn Maps, to develop a history of the previous uses of the site and surrounding area.



- Historical and site-specific information obtained from the following local agencies: Needham Fire Prevention Office, Needham Assessors Office, and the Needham Fire Department ENVIRON also requested information from the Town of Needham Public Health Department but personnel from these agencies reported having no information pertaining to the site.
- A review of physical setting sources, as defined in the ASTM Standard, including:
  - The current United States Geological Survey (USGS) 7.5-minute topographic map that shows the area on which the site is located.
  - Geologic, hydrogeologic, or hydrologic sources as provided in the EDR report and in the previous environmental report for the site, as listed below.
- A review of documents provided to ENVIRON by facility personnel, including a previous Phase I ESA. In addition, ENVIRON was provided with the following previous environmental assessment report, which are included as Appendix D: put reports in chronological order from oldest to most recent
  - *Correspondence Letter for RTN 3-10178*, prepared by Balsam Environmental Consultants, Inc., dated March 1994;
  - *Correspondence Letter for RTN 3-10839*, prepared by Dames & Moore; dated August 1995;
  - *Correspondence Letter for RTN*, prepared by General Dynamics; dated August 5, 2005;
  - *Release Abatement Measure Completion Report*, prepared by Dames & Moore; dated November 1999;
  - *Phase IV Completion and Final Inspection Report*, prepared by Dames & Moore; dated April 2001;
  - *Immediate Response Action Completion Report and Class B-1 Response Action Outcome Statement*, prepared by URS, dated November 2012;
  - *Phase I ESA*, prepared by URS, dated August 2013 (the “2013 Phase I report”); and
  - *Correspondence Letter RE: Analytical Results for 189 B Street, Needham, MA, August 2014 Groundwater and Air Sampling Events*, prepared by Woodard & Curran; dated September 4, 2014.
- A review of any information provided by the user of this assessment, including information consistent with Appendix X3 of the ASTM Standard. Pertinent information, if any, is discussed in the appropriate sections of this report

This assessment was conducted in accordance with the methodology specified in ASTM Standard E1527-13, as agreed upon by ENVIRON and Normandy Real Estate Partners c/o Post & Shell, P.C. in June 2014. The standard ASTM scope was expanded to include a limited ACM survey and a soil gas survey.

### 2.3 Reliance and General Limitations

This report may be relied upon by Normandy Real Estate Partners, and each of its attorneys, partners, affiliates, lenders, successors and assigns subject to the terms of the Master

Technical Services Agreement entered into by ENVIRON International Corporation, Post & Schell, and Normandy Real Estate Partners. No other person may rely on this report without written authorization from ENVIRON and Normandy Real Estate Partners. If any of the above limitations conflict with the Agreement, the Agreement governs.

The report is considered current only for a period of 180 days from the date of the site inspection. The conclusions presented in this report represent ENVIRON's best professional judgment based upon the information available and conditions existing as of the date of this report. In performing its assignment, ENVIRON must rely upon publicly available information, information provided by the client, and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to ENVIRON was accurate and complete. This review is not intended as legal advice, nor is it an exhaustive review of site conditions or facility compliance. ENVIRON makes no representations or warranties, expressed or implied, about the conditions of the site.